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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/926,515 | 11/14/2001 | David P. Goren | 1061 | 7466 |
| 21003 | 7590 | 05/05/2005 | EXAMINER | |
| BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112 | | | ISSING, GREGORY C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3662 | |

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/926,515 | Applicant(s) GOREN ET AL. | |
| | Examiner Gregory C. Issing | Art Unit 3662 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-118 is/are pending in the application.
- 4a) Of the above claim(s) 1-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-118 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9 sheets</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/11/05.

The applicants traversed on the grounds that since the claims are useable together, there would not be an undue burden on the Examiner. This argument fails to show why the restriction is improper since any restriction on the basis of subcombinations useable together inherently are useable together.

The restriction of the claims as set forth in the previous Office Action is maintained and made Final.

2. The various sets of claims are directed to determining one or more time of arrival estimates, and/or time differences, for ultimately determining position of a source of a signal using a correlation function.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 62 appears to be incomplete since neither "said decoded signal" nor "said data signal" is previously set forth.

Claim 63 is not further limiting.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 35-91 are rejected under 35 U.S.C. 102(b) as being anticipated by LeBlanc et al (WO 98/10538).

LeBlanc et al disclose the claimed method and apparatus (see for example Figures 5-10) for determining the location of a mobile asset using a wireless communication infrastructure using time of arrival signal processing techniques, time difference of arrival signal processing techniques, and wireless signal processing (see page 8). The digital radio wireless infrastructure includes any of the standard digital protocols and includes wideband spread spectrum digital signals. The system may include a plurality of distributed antenna systems for receiving a signal from a mobile device to be tracked. In one case, wireless signals communicated from the mobile device to the wireless network having a plurality of antennas distributed in the network wherein the signal time delay information (TOA or TDOA) is used to extract mobile location and wherein each measurement is correlated with a respective unique signal to determine the time delays according to each antenna (see for example claims 23-30).

7. Claims 35-118 are rejected under 35 U.S.C. 102(a) as being anticipated by Li et al ("Comparison of Indoor Geolocation Methods in DSSS and OFDM Wireless LAN").

Li et al disclose the claimed method and apparatus for determining the location of a mobile asset transmitting a signal using a direct sequence spread spectrum signal in an 802.11 Wireless LAN wherein a geolocation system using TDOA information is overlaid on the wireless communication infrastructure. Section 2 describes the generalities of an 802.11 WLAN while Sections 2.1-2.3 describe the determination of time of arrival estimates and the use of time differences of arrival using a generalized cross-correlation method to geolocate the mobile asset.

8. Claims 35-91 are rejected under 35 U.S.C. 102(e) as being anticipated by Hawkes et al (6,201,499).

Hawkes et al disclose a time difference of arrival method and apparatus for determining the position of a mobile asset in a wireless communication infrastructure including first sensor 24 and

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second sensor 124 which receive a signal from an RF transmitter 10. See Figures 9-11 showing the method and apparatus for using correlation to determine time differences of arrival ultimately used in the determination of position of the transmitter.

9. Claims 35-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Fattouche et al.

Fattouche et al disclose the method and apparatus for determining the location of a mobile asset utilizing estimates of time of arrival information in time difference of arrival processing.

Fattouche et al teach the mobile asset transmitting a signal and a plurality of monitoring stations receiving and processing the received signal to determine time of arrival information. Figures 9-17 exemplify the various forms of processing using correlation to estimate the TOA.

10. Claims 35-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al.

Nakagawa et al disclose the claimed method and apparatus for estimating time of arrival data of a transmission from a mobile object for use in determining time differences of arrival used in positioning the mobile object. The mobile object 3 transmits a PN coded spread spectrum signal which is correlated, via the matched filter, at a plurality of receiver stations 1a-d. the time information is relayed to a computer 5 that determines the time differences of arrival used in determining the position.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 92-118 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of LeBlanc et al, Hawkes et al, Fattouche et al or Nakagawa et al in view of Li et al.

Each of LeBlanc et al, Hawkes et al, Fattouche et al or Nakagawa et al describe asset/mobile tracking using a wireless RF signal transmitted from the asset/mobile to a plurality of receiving

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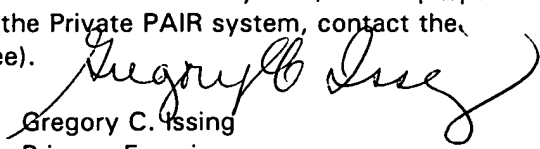
stations for reception thereat and for the subsequent determination of position using TOA/TDOA information gathered by the signals collected at the receiving stations. However, use of an IEEE 802.11 wireless network is not specified. Li et al teach the conventionality of the position determining using IEEE 802.11 network particularly for location determination indoors. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify any one of LeBlanc et al, Hawkes et al, Fattouche et al or Nakagawa et al with the teachings of Li et al to utilize an IEEE 802.11 wireless communication infrastructure when operating indoors and thereby utilize a wireless communication infrastructure already in place and which is better suited for indoor operation since outdoor sources may be blocked via walls and floors of buildings.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grossman discloses a conventional position monitoring system using spread spectrum signaling wherein it is known that the use of spread spectrum enables time of arrival information to be derived merely from the signal processing of the spread spectrum signal using matched filtering.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory C. Issing
Primary Examiner
Art Unit 3662

gci